

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET H4NE	TCDS NUMBER: H4NE REVISION NUMBER: 4 SIKORSKY AIRCRAFT MODELS: S-70C(M1) S-70C(M) REVISION DATE: February 4, 2000
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This data sheet, which is part of Type Certificate Number H4NE, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate (TC) Holder: Sikorsky Aircraft Corporation
 6900 Main Street
 Stratford, Connecticut 06615-9129

I. - Model Number: **S-70C(M1) (Restricted Category) Approved: 2/21/90 (See Note 3)**

ENGINES: 2 General Electric CT7-2D

FUEL: Aviation Kerosene, JP4, JP5, Jet A, Jet A-1, Jet B or JP 8.

ENGINE LIMITS:

	SHAFT HP (S.L. STD)	POWER TURBINE RPM / %	GAS GEN. RPM / %	TURBINE GAS TEMP/ °C
2 1/2 min. Power (Contingency Power)	1,723	20,900 / 100	45,600 / 102	917
30 min. Power	1,690	20,900 / 100	45,600 / 102	867
Maximum Continuous Power (MCP)	1,437	20,900 / 100	43,800 / 98	801

TRANSMISSION LIMITS:

	<u>Torque / %</u>
2 Minute	120 OEI 115 Dual
30 Minute	120 OEI 106 Dual
Continuous	120 OEI 106 Dual

ROTOR LIMITS:

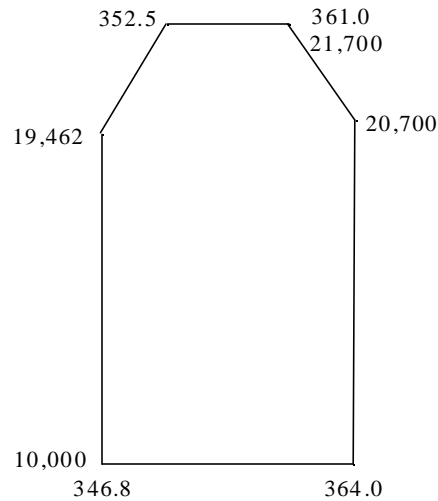
Power On: Max. 101% (100% = 258 RPM)
 Min. 96%
 Power Off: Max. 121%
 Min. 90%

AIRSPPEED LIMITS:

Maximum (red line) airspeed 180 KIAS

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C.G. RANGE



DATUM:	341.2 inches forward of the main rotor centroid
MAXIMUM WEIGHT:	21,700 lbs.
MINIMUM CREW:	2 (pilot, copilot)
NUMBER OF SEATS:	1 at Sta. 329; 1 at Sta. 366.
FUEL CAPACITY:	590 gallons; 2 tanks (LH & RH interchangeable)
OIL CAPACITY:	7.3 quarts each engine
OTHER OPERATING LIMITATIONS:	Sikorsky Publication Operator's Manual S-70C(M1) Helicopter RFM SA4047-70CM1-NFM-000.
SERIAL NUMBERS ELIGIBLE:	None
TYPE CERTIFICATION BASIS:	<p>FAR 21.25(a)(2), effective January 6, 1975.</p> <p>Type Certification No. H4NE issued April 25, 1986, revised February 21, 1990, (See Note 3), for the purpose of:</p> <ul style="list-style-type: none"> (1) Agricultural (2) External Cargo (3) Firefighting
PRODUCTION BASIS:	Production Certificate No. 105.
EQUIPMENT:	<p>The following must be installed in each type helicopter for certification:</p> <ul style="list-style-type: none"> (1) Sikorsky Publication Operator's Manual S-70C(M1) Helicopter RFM SA4047-70CM1-NFM-000. (2) Removal of military equipment in accordance with the latest FAA approved Revision of Sikorsky Aircraft Kit Drawing No. 70080-00102, and replace with commercial equipment. Remove T700-GE-401 engines and replace with GE CT7-2D engines.

II. Model Number: S-70C(M) (Restricted Category) Approved: 2/21/90. (See Note 3)

ENGINES: 2 General Electric CT7-2D1
 2 General Electric T700-GE-401
 2 General Electric T700-GE-401C

FUEL: Aviation Kerosene JP4, JP5, Jet A, Jet A-1, Jet B, or JP 8.

ENGINE LIMITS: FOR GENERAL ELECTRIC MODELS CT7-2D1 & T700-GE-401

	SHAFT HP (S.L. STD)	POWER TURBINE RPM / %	GAS GEN. RPM / %	TURBINE GAS TEMP/°C
2 1/2 min. Power (Contingency Power)	1,723	20,900 / 100	45,600 / 102	903
30 min. Power	1,690	20,900 / 100	45,600 / 102	851
Maximum Continuous Power (MCP)	1,437	20,900 / 100	43,800 / 98	810

FOR GENERAL ELECTRIC MODEL T700-GE-401C

	SHAFT HP (S.L. STD)	POWER TURBINE RPM / %	GAS GEN. RPM / %	TURBINE GAS TEMP/°C
2 1/2 min. Power (Contingency Power)	1,940	20,900 / 100	44,700 / 100	891
30 min. Power	1,690	20,900 / 100	44,700 / 100	839
Maximum Continuous Power (MCP)	1,662	20,900 / 100	44,700 / 100	810

Absolute torque limitations, regardless of atmospheric conditions for the T700-GE-401C.

DUAL ENGINE DA (FT)	TORQUE MAX. CONT.	TORQUE (10 SEC. TRANSIENT)
0-4000	106%	127%
4000-5000	103%	127%
5000-6000	100%	127%
6000-8000	94%	127%
8000-10,000	88%	127%
Single Engine Continuous		0-120%
10 min. max.		121-135%
10 sec. max.		136-144%

TRANSMISSION LIMITS:

	<u>TORQUE / %</u>
10 Minute	135 OEI 106 Dual
Continuous	120 OEI 106 Dual

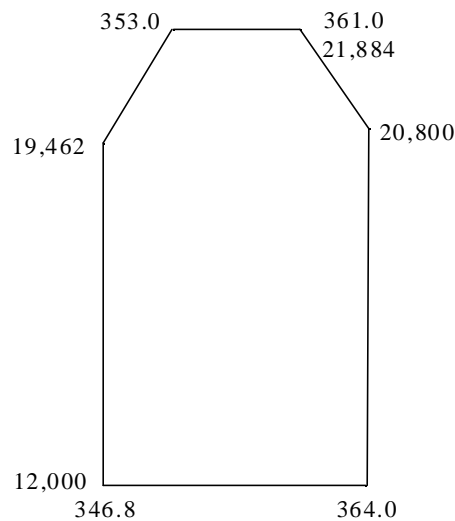
ROTOR LIMITS:

Power On:	Max.	120%	(100% = 258 RPM)
	Min.	91%	
Power Off:	Max.	120%	
	Min.	90%	

AIRSPEED LIMITS:

Maximum (red line) airspeed 180 KIAS

C.G. RANGE:



DATUM:

341.2 inches forward of main rotor centroid.

LEVELING MEANS:

Leveling plate on cabin floor, right side, BL 14.90 and plumb line from upper frame at station 346.65.

MAXIMUM WEIGHT:

21,884 lbs.

MINIMUM CREW:

2 (pilot, copilot)

NUMBER OF SEATS:

1 at Sta. 311; 1 at Sta. 329; 1 at Sta. 366.

FUEL CAPACITY:

With General Electric T700-GE-401 engines: 695 gallons; 2 tanks (LH & RH interchangeable), 590 gallons and 1 auxiliary tank LBL 41, sta. 295, 105 gallons.

With General Electric CT7-2D1 and T700-GE-401C engines: 590 gallons; 2 tanks (LH & RH interchangeable).

OIL CAPACITY:

7.3 quarts each engine.

OTHER OPERATING LIMITATIONS:

With General Electric CT7-2D1 engines: Sikorsky Publication Flight Manual S70C(M) SA4047-H60FB-NFM-000(1).

	With General Electric T700-GE-401 engines: Sikorsky Publication Flight Manual S70C(M) SA4047-H60FB-NFM-000.
	With General Electric T700-GE-401C engines: Sikorsky Publication Flight Manual S70C(M) SA4047-H60CA-NFM-000.
SERIAL NUMBERS ELIGIBLE:	Serial number will be assigned in conjunction with individual FAA airworthiness certificate for the aircraft.
TYPE CERTIFICATION BASIS:	FAR 21.25(a)(2), effective January 6, 1975. Type Certification No. H4NE issued April 25, 1986, revised February 21, 1990, (See Note 5) for the purpose of: <ul style="list-style-type: none"> (1) Agricultural (2) External Cargo (3) Firefighting
PRODUCTION BASIS:	Production Certificate No. 105
EQUIPMENT:	The following must be installed in each type helicopter for certification: <p>With General Electric CT7-2D1 Engines:</p> <ul style="list-style-type: none"> (1) Sikorsky Publication Flight Manual S70C(M) SA4047-H60FB-NFM-000(1). (2) Removal of military equipment and replacement with commercial equipment (if required) in accordance with the latest FAA approved revision of Sikorsky Aircraft Kit Drawing No. 70080-00112-012. <p>With General Electric T700-GE-401 Engines:</p> <ul style="list-style-type: none"> (1) Sikorsky Publication Flight Manual S70C(M) SA4047-H60FB-NFM-000. (2) Removal of military equipment and replacement with commercial equipment (if required) in accordance with the latest FAA approved revision of Sikorsky Aircraft Kit Drawing No. 70080-00112-011. <p>With General Electric T700-GE-401C Engines:</p> <ul style="list-style-type: none"> (1) Sikorsky Publication Flight Manual S70C(M) SA4047-H60CA-NFM-000. (2) Removal of military equipment and replacement with commercial equipment (if required) in accordance with the latest FAA approved revision of Sikorsky Aircraft Kit Drawing No. 70080-00112-013.

NOTES

NOTE 1:	Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions must be in each type helicopter at time of original airworthiness certification and at all times thereafter.
NOTE 2:	The following placard must be prominently displayed in the cockpit in full view of the pilots: "THIS ROTORCRAFT MUST BE OPERATED IN ACCORDANCE WITH THE RESTRICTED CATEGORY OPERATING LIMITATIONS OF FAR 91.39."
NOTE 3:	Model S-70C(M1) originally approved as Model S-70C(M) on April 25, 1986, and is the civil equivalent of U.S. Navy Model SH-60B. Revision 1 to TCDS H4NE, February 21, 1990 established Model S-70C(M) as the civil equivalent of U.S. Navy Model SH-60F, and established Model S-70C(M1) as the civil equivalent of U.S. Navy Model SH-60B.

NOTE 4: For Model S-70C(M1): Prior to the Civil Airworthiness Certification, compliance with the following must be accomplished:

- (a) Comply with U.S. Navy Airframe Bulletin No. AFB 017, Main Transmission Support Beam Inspection.
- (b) Comply with U.S. Navy Message No. 291913Z (January 86) Special Spindle Inspection.
- (c) Comply with U.S. Navy Message No. 291623Z (January 86) Main Rotor Damper/Maintenance procedure.
- (d) Comply with U.S. Navy Avionics Bulletin No. 399, Inspection of Stabilator Amplifier.
- (e) Comply with U.S. Navy Interim Airframe Change No. 004, Airframe and Landing Gear System, Tail Landing Gear Assembly.
- (f) Comply with U.S. Navy Interim Airframe Change No. 014, Installation of Cargo Hook Keeper and External Spring.

Copies of the U.S. Navy Messages, Bulletins and Interim Changes may be obtained from Sikorsky Aircraft, Division of United Technologies, Attention Civil Aviation Requirements Office, North Main Street, Stratford Connecticut 06601.

Information essential to the proper maintenance of the Model S-70C(M1) is contained in Sikorsky Publications:

SA4047-S70CM1-110-300	SA4047-S70CM1-140-300	SA4047-S70CM1-150-300
SA4047-S70CM1-220-300	SA4047-S70CM1-240-300	SA4047-S70CM1-260-300
SA4047-S70CM1-410-300	SA4047-S70CM1-420-300	SA4047-S70CM1-450-300
SA4047-S70CM1-460-300	SA4047-S70CM1-490-300	SA4047-S70CM1-510-300
SA4047-S70CM1-560-300	SA4047-S70CM1-690-300	SA4047-S70CM1-710-300
SA4047-S70CM1-720-300	SA4047-S70CM1-740-300	SA4047-S70CM1-750-300
SA4047-S70CM1-GAI-000	SA4047-S70CM1-GAI-010	SA4047-S70CM1-MRC-100
SA4047-S70CM1-MRC-200	SA4047-S70CM1-MRC-000	SA4047-S70CM1-MRC-300
SA4047-S70CM1-SRM-000	SA4047-S70CM1-WDM-000	

Information essential to the proper maintenance of the General Electric CT7-2D engines is contained in General Electric Publications SEI 569, 570 and 690. Component overhaul intervals and replacement times shall be in accordance with Sikorsky publication SA4047-S70CM1-MRC-000, as revised, unless superseded by appropriate airworthiness directive.

NOTE 5: For model S-70C(M) with General Electric CT7-2D1 engines installed: Information essential to the proper maintenance is contained in Sikorsky Publications:

SA4047-S70CM-110-300	SA4047-S70CM-140-300	SA4047-S70CM-150-300
SA4047-S70CM-220-300	SA4047-S70CM-240-300	SA4047-S70CM-260-300
SA4047-S70CM-410-300	SA4047-S70CM-420-300	SA4047-S70CM-450-300
SA4047-S70CM-460-300	SA4047-S70CM-490-300	SA4047-S70CM-510-300
SA4047-S70CM-560-300	SA4047-S70CM-690-300	SA4047-S70CM-710-300
SA4047-S70CM-720-300	SA4047-S70CM-740-300	SA4047-S70CM-750-300
SA4047-S70CM-GAI-000	SA4047-S70CM-GAI-010	SA4047-S70CM-MRC-100
SA4047-S70CM-MRC-350	SA4047-S70CM-MRC-400	SA4047-S70CM-MRC-300
SA4047-S70CM-SRM-000	SA4047-S70CM-SRM-300	SA4047-S70CM-WDM-000

Information essential to the proper maintenance of the General Electric CT7-2D1 engines is contained in General Electric Publications SEI 569, 570, 692, and 693. Component overhaul intervals and replacement times shall be in accordance with Sikorsky Publications SA4047-S70CM-MRC-000, as revised, unless otherwise superseded by appropriate airworthiness directive.

NOTE 6: For model S-70C(M) with General Electric T700-GE-401C engines installed Information essential to the proper maintenance is contained in Sikorsky Publications:

SA4047-S70CM-110-300	SA4047-S70CM-140-300	SA4047-S70CM-140-300
SA4047-S70CM-220-300	SA4047-S70CM-240-300	SA4047-S70CM-260-300
SA4047-S70CM-410-300	SA4047-S70CM-420-300	SA4047-S70CM-450-300
SA4047-S70CM-460-300	SA4047-S70CM-490-300	SA4047-S70CM-510-300
SA4047-S70CM-560-300	SA4047-S70CM-690-300	SA4047-S70CM-710-300
SA4047-S70CM-720-300	SA4047-S70CM-740-300	SA4047-S70CM-750-300
SA4047-S70CM-GAI-000	SA4047-S70CM-GAI-010	SA4047-S70CM-MRC-100

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